

Proposition 71

Stem Cell Research. Funding. Bonds. Initiative Constitutional Amendment and Statute.

Background

Stem Cell Research. A stem cell is a type of cell found in both animals and humans that has the potential to develop into many different types of specialized cells in the body. Scientists have conducted research on stem cells to better understand how animals and humans develop and how healthy cells replace damaged cells. This research has led to the development of treatments of a variety of cancers and blood disorders. Some scientists believe that stem cell research may, at some point in the future, result in new treatments of diseases. (See the nearby box for additional information on stem cell research.)

California law currently permits research involving stem cells. The University of California (UC) is currently engaged in this type of research. The exact amount of UC research funding devoted to stem cell research could not be determined, but the available information suggests that the total funds spent for these purposes range from the millions of dollars to the tens of millions of dollars annually.

The federal government provides funding for research that uses different types of stem cells, including adult and embryonic stem cells. In the 2002 federal fiscal year, the federal government dedicated more than \$180 million in funding for stem cell research conducted nationwide. The federal government currently places certain restrictions on funding for research that uses embryonic stem cells.

State law currently prohibits human reproductive cloning, a process to create a human that is an exact genetic copy of another.

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Stem Cells and Stem Cell Research

What Are Stem Cells? As described by the National Institutes of Health, stem cells differ from other cells in three main ways. First, they are "unspecialized," meaning they do not perform specialized functions, such as the way heart muscle cells help blood flow or red blood cells carry oxygen through the bloodstream. Second, under certain conditions, they can be transformed into cells with specialized functions. Third, these cells are capable of reproducing themselves over an extended period of time. As a result, these cells can serve as a repair system for the body by replenishing other cells for as long as the person or animal is alive.

What Are Embryonic and Adult Stem Cells? Human embryonic stem cells appear in an embryo, a fertilized human egg, five to seven days after conception. They are ordinarily extracted from extra embryos that have been donated for research by parents who tried to conceive a child through certain procedures performed at fertility clinics. Embryonic stem cells have the potential to develop into all cell types of the body.

Adult stem cells are obtained for scientific research from many organs and tissues including the brain, bone marrow, blood vessels, skin, and the liver. These stem cells are generally limited to becoming the cell type of its tissue of origin.

Why Do Researchers Want to Study Stem Cells? Scientists indicate that there are many ways in which human stem cells can be used in basic and clinical research. Stem cell research may provide information on the complex events that occur during human development that lead to serious medical conditions like cancer and birth defects. Human stem cells could be used to test the safety of drugs. Also, researchers indicate that stem cells offer the possibility of a renewable source of replacement cells and tissues to treat diseases such as Parkinson's, Alzheimer's, heart disease, or diabetes, or to treat spinal cord injuries.

General Obligation Bonds. The state generally uses general obligation bond funds to finance major state capital outlay projects. General obligation bonds are backed by the state, meaning that the state guarantees payment of the principal and interest costs on these bonds. General Fund revenues are used to pay these costs. These revenues come primarily from the state personal and corporate income taxes and the sales tax. For more information regarding general obligation bonds, please refer to the section of the ballot pamphlet entitled "An Overview of State Bond Debt."

Proposal

The measure authorizes the state to sell \$3 billion in general obligation bonds to provide funding for stem cell research and research facilities in California. A new state medical research institute would be established to use the bond funds to award grants and loans for stem cell research and research facilities, and to manage stem cell research activities funded by this measure within California. The major provisions of the measure are discussed below.

New State Institute Created. This measure would establish the California Institute for Regenerative Medicine to award grants and loans for stem cell research and research

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facilities. The institute would also be responsible for establishing regulatory standards for stem cell research funded by the grants and loans and managing such research and the development of related facilities. The institute could have a staff of up to 50 employees who, under the measure, would be exempt from state civil service requirements.

The institute would be governed by a 29-member Independent Citizen's Oversight Committee (ICOC), comprised of representatives of specified UC campuses, another public or private California university, nonprofit academic and medical research institutions, companies with expertise in developing medical therapies, and disease research advocacy groups. The Governor, Lieutenant Governor, Treasurer, Controller, Speaker of the Assembly, President pro Tempore of the Senate, and certain UC campus Chancellors would make the appointments to the ICOC.

General Obligation Bond Funding. The measure would authorize the state to sell \$3 billion in general obligation bonds, and limit bond sales to no more than \$350 million per year. The measure states its intent, but does not require in statute, that the bonds be sold during a ten-year period. For at least the first five years after the measure took effect, the repayment of the principal would be postponed and the interest on the debt would be repaid using bond proceeds rather than the General Fund. Subsequent interest and principal payments after that five-year period would come from the General Fund. The proceeds from the bond sales would be placed in a new California Stem Cell Research and Cures Fund and used primarily to fund the various activities of the institute. The funds authorized for the institute would be continuously appropriated without regard to fiscal year.

Once the measure took effect, the institute would receive a \$3 million start-up loan from the state General Fund for initial administrative and implementation costs. The institute would later repay the General Fund loan using the proceeds from the sale of bonds authorized under this measure.

How Funding Would Be Spent. Under the measure, any funding needed for various bond-related costs (for example, the cost of administering the bond sales) would be deducted before bond proceeds were spent for other purposes.

The institute would be able to use up to 3 percent of the remaining bond proceeds for general administrative costs and up to an additional 3 percent for administrative costs associated with grant-making activities. The remaining funds would be used for the grants and loans for research and research facilities.

Priority for research grant funding would be given to stem cell research that met the institute's criteria and was unlikely to receive federal funding. In some cases, funding could also be provided for other types of research that were determined to cure or provide new types of treatment of diseases and injuries. The institute would not be allowed to fund research on human reproductive cloning.

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Up to 10 percent of the funds available for grants and loans could be used to develop scientific and medical research facilities for nonprofit entities within the first five years of the implementation of the measure.

Benefits From Royalties and Patents. The ICOC would establish standards requiring that all grants and loans be subject to agreements allowing the state to financially benefit from patents, royalties, and licenses resulting from the research activities funded under the measure.

Right to Conduct Stem Cell Research. Consistent with current statute, this measure would make conducting stem cell research a state constitutional right.

Fiscal Effects

Borrowing Costs. As noted earlier, this measure provides that no General Fund payments for the bonds would occur in the first five years after it took effect. The costs to the state after that would depend on the interest rates obtained when the bonds were sold and the length of time it took to repay the debt. If the \$3 billion in bonds authorized by this measure were repaid over a 30-year period at an average interest rate of 5.25 percent, the cost to the General Fund would be approximately \$6 billion to pay off both the principal (\$3 billion) and interest (\$3 billion). The average payment for principal and interest would be approximately \$200 million per year.

Institute Operating Costs. As noted earlier, this measure would limit the amount of bond funding available that the institute could use for its administrative activities. The measure does not specify what would happen if the institute's administrative costs were greater than the amount of available bond funding. The amount of additional General Fund support that would be required, if any, is unknown, but would be unlikely to exceed a few million dollars annually.

Loan Repayment Revenues. If the institute awards loans in addition to grants for stem cell research and facilities, the institute would eventually receive revenues from the repayment of those loans. The measure specifies that any such loan repayment revenues would be used either to provide additional grants and loans or to pay ongoing costs for the administration of the bonds.

State Revenues From Research. As noted earlier, this measure would allow the state to receive payments from patents, royalties, and licenses resulting from the research funded by the institute. The amount of revenues the state would receive from those types of arrangements is unknown but could be significant. The amount of revenue from this source would depend on the nature of the research funded by the institute and the exact terms of any agreements for sharing of revenues resulting from that research.

Effects on University System. To the extent that the UC system receives a share of the grants awarded by the institute, it could attract additional federal or private

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research funding for this same purpose. The UC system could also eventually receive significant revenues from patents, royalties, and licenses.

Other Potential Fiscal Effects. If the measure were to result in economic and other benefits that would not otherwise have occurred, it could produce unknown indirect state and local revenue gains and cost savings. Such effects could result, for example, if the added research activity and associated investments due to the measure generate net gains in jobs and taxable income, or if funded projects reduce the costs of health care to government employees and recipients of state services. The likelihood and magnitude of these and other potential indirect fiscal effects are unknown.

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